# ALSI10 MG

## GENERAL INFORMATION

ALUMINUM IS ONE OF THE LIGHTEST METAL IN THE WORLD. IS COMMONLY USED FOR THIN AND COMPLEX GEOMETRIES. IT HAS GOOD MECHANICAL PROPERTIES AND HARDNESS, AND IS SUITABLE FOR APPLICATION THAT REQUIRE LIGHTWEIGHT COMPONENTS WITH GOOD THERMAL PROPERTIES. ALMOST ANY INDUSTRIAL FIELD CAN BENEFIT FROM ALUMINUM PROPERTIES.

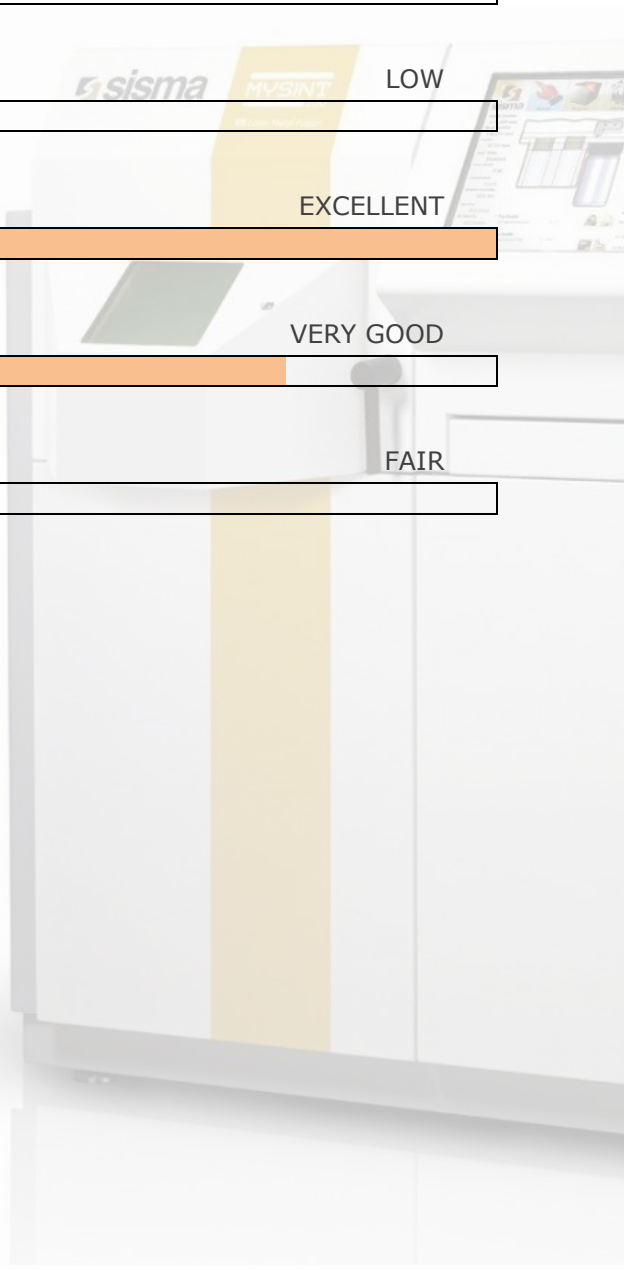
DENSITY 2.7 KG/DM$^3$

BIO-COMPATIBILITY LOW

MACHINABILITY EXCELLENT

WELDABILITY VERY GOOD

CORROSION RESISTANCE FAIR



## Chemical Composition *(according ASTM E1251-11)*

| Al | Si | Fe | Cu | Mn | Mg | Ni | Zn | Pb |
|---|---|---|---|---|---|---|---|---|
| Balance | 10% | <0.55% | <0.05% | <0.45% | 0.3% | <0.05% | <0.1% | <0.05% |

## Mechanical Properties

| | |
|---|---|
| Yield Strength [1] | up to 295 MPa |
| Tensile Strength [1] | up to 470 MPa |
| Elongation A [1] | 7 % |
| Necking Z [1] | 11 % |
| Young's Modulus [1] | 72 GPa |
| Hardness [2] | 133 HV |
| Relative Density [3] | over 99.5 % |

[1] Tested according to EN 6892-1:2009
[2] Measured according to EN ISO 6507-1
[3] Measured according to ASTM E1245

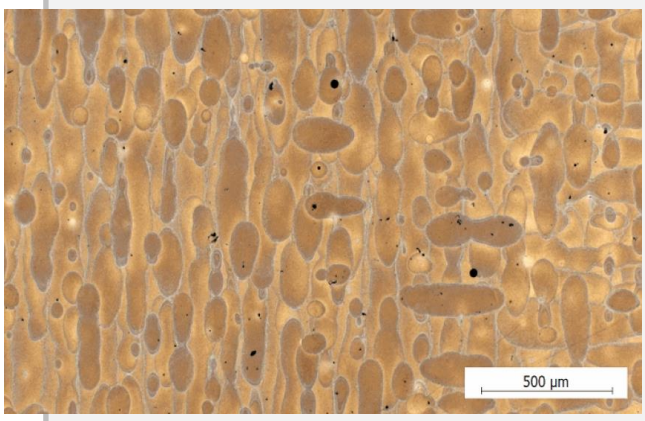
## Surface Quality

| | |
|---|---|
| Ra | 10 µM |
| Rz | 57 µM |

measured in compliance with ISO 4287-1997. results strongly depend on sample geometrical complexity and orientation

## Microstructure *(according to ASTM E112)*


Magnification: 150x




Magnification: 750x

## Notes

All the values in this document refer to a combination of geometries, powders and parameters developed by SISMA, therefore they must be intended for information only. Informations written in this form are subjected to sudden modification without prior notice, and do not grant final result.